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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/531,167 | 04/11/2005 | Hans-George Lemaire | 268522US0PCT | 4830 |
| 22850 | 7590 | 05/30/2006 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. | | | KHAN, AMINA S | |
| 1940 DUKE STREET | | | ART UNIT | |
| ALEXANDRIA, VA 22314 | | | PAPER NUMBER | |

1751

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,167

Applicant(s)

LEMAIRE ET AL.

Examiner

Amina Khan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the amendment filed on March 7, 2006.
2. Claims 14-26 are pending. Claims 1-13 have been cancelled. Claims 14 and 24 have been amended. Claim 26 is new.
3. Applicant's amendments, filed March 7, 2006, with respect to claim 1 are acknowledged and sufficient to moot the 35 USC 102(b) rejection of the claims 14-17 and 19-22 and the 35 USC 103(a) rejection of claims 18 and 23-35 in view of Pfeiderer (US 4,484,924). The rejections of the claims have been withdrawn.
4. Applicant's amendments, filed March 7, 2006, with respect to claim 24 are acknowledged and sufficient to overcome the 35 USC 112 rejection of the claims 24 and 25. The rejection of the claims has been withdrawn.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 14-17,19,21,22 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Monsheimer et al. (US 4,278,432).

Monsheimer et al. teach methods for treating animal skins or hides with 1,4-dithioerythritol and thiourea in an amount of 0.02-0.5% (column 1, lines 1-15; column 2, lines 25-37) and protease (column 2, lines 60-68) as claimed in claims 14-17,19 and 22. Monsheimer does not teach the addition of lime to the formulations as claimed in claim 26. Monsheimer further teaches soaking hides in the presence of urea (column 5, example 4) as claimed in claim 21.

Accordingly, the teachings of Monsheimer anticipate the material limitations of the instant claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 20 and 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monsheimer et al. (US 4,278,432) as applied to the claims above.

Monsheimer et al. is relied upon as set forth above.

Monsheimer does not teach protease concentrations a factor of 10 smaller than the 1,4-dithioerythritol and a residual liquor comprising melanin and the degradation products of melanin.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the residual liquor of an unhairing process taught by Monsheimer et al. would comprise melanin and the degradation products of melanin because melanin is a component of hair and would be present in the residual liquor in complete and degraded form after unhairing. It would have further been obvious to one of ordinary skill in the art to optimize the concentration of proteases to those instantly claimed since optimization only requires routine skill in the art. The burden is on the applicant to prove otherwise.

9. Claims 18,20,24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monsheimer et al. (US 4,278,432) as applied to the claims above, and further in view of Pfeiderer et al. (US 4,484,924).

Monsheimer et al. is relied upon as set forth above.

Monsheimer et al. does not teach the claimed Lohlein Volhard activity of the proteases. Monsheimer et al. also does not teach the process of obtaining a residual liquor comprising melanin and the degradation products of melanin and soaking raw hides in the neutralized liquor.

Pfeiderer et al., in the analogous art of treating animal hides, teaches protease enzymes with enzyme activity from 8,000-10,000 Loehlein-Volhard units (LVU) per gram of enzyme (column 4, lines 48-49), as claimed in claim 18. Pfeiderer further teaches opening of the hide structure following removal of the hair by deliming through

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neutralization steps with commonly used deliming acids (column 5, lines 4-17) as claimed in claims 24 and 25.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods of Monsheimer by removing protein from the residual liquor because Pfeiderer et al. teaches "the major portion of the protein load of conventional lime liquors is eliminated in unhairing, the opening of the hide structure with alkali can be carried out by the recycling process. No liquors having a high protein or sulfide content that might adversely effect purification of waste waters by biodegradation are produced" (column 5, lines 62-68).

It would also have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods of Monsheimer et al. by incorporating the proteases taught by Pfeiderer et al. to arrive at enzymes with activity values of 500-2,000,000 LVU/kg based on the weight of the animal hide since Pfeiderer teaches these enzymes as essential compounds for dehairing animal hides.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

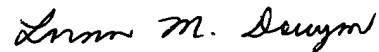
11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Amina Khan
Patent Examiner
May 29, 2006



LORNA M. DOUYON
PRIMARY EXAMINER